

## *Abstract*

*West Bengal is a predominantly foodgrains producing state. Still its foodgrains production stagnated for a long time except for a brief and mild spell of growth during the sixties. It was only during the 1980s that there was a sudden and spectacular rise in the growth rate of foodgrains production, followed by an alarming fall again in the 1990s.*

*Against this background, the present work attempts to study the different aspects of foodgrains production in the state between 1970-71 and 1999-2000 with special emphasis on consistent estimation of sub-period growth rates of output and production, use of double kinks not only for the study of trend breaks, but also for trend selection and for production function analysis for studying the impact of modern farm practices on foodgrains productions and productivity, test of rainfall effect on both growth rate and trend breaks by the addition of a standardized rainfall variable in the trend equation, consistent additive decomposition of growth and the role of institutional reforms. The most important methodological contribution of this work is to develop a consistent model of growth decomposition without any arbitrary residual term even in a linear framework.*

*Results show that in most of the districts and the state as a whole, double kink linear form was the best-fitted model, while the first kink at 1983-84 always indicated a significant rise in the growth rate, the second trend kink at 1991-92 generally stood for a significant fall in growth rates. The rainfall-adjusted growth rates were slightly/marginally lower during first/ second sub-periods and substantially higher during last sub-period as compared to unadjusted growth rates. Again after rainfall adjustment, the first trend-break continued to be significant, but it made the second trend-break non-significant. Decomposition results reveal that yield effect was mostly the dominant component of both output*

*and productivity growth and moved almost in the same direction as production growth. Most of the modern farm inputs had significant positive effects on output and productivity. However, it was the better utilization and not the input growth that lay behind the spectacular output and productivity growth of the 1980s. This better utilization was possible through the institutional and technological changes, which perhaps reached a stage of stagnation by the 1990s when monsoon was fluctuating with excessive rainfall towards the end of the decade. These led to the downslide of the 1990s.*

*To recover from this situation and to achieve a real and sustained break-through in agriculture, it is necessary to give importance to the maintenance of proper complementarity between the farm inputs, creation and, more importantly, full-utilization of further irrigation potential and command area development with adequate drainage facilities.*

**Keywords:** *Kink, Trend break, Modern farm practice, Standardized rainfall variable, Additive decomposition, Institutional reform, Double kink linear, Technological change.*